

THE LATENT STAGE OF GALL-STONES AND ITS EARLY RECOGNITION *

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The object of this article is to offer a symptom-complex of the early or latent state of gall-stone disease, to show the fallacy of the prevailing idea that the latent stage is symptomless.

Many notable authors have duly recognized a precolic or latent stage, but they have not emphasized it sufficiently to give the subject a wider and broader recognition among physicians. Naunyn claims that every tenth person and every fourth elderly woman has gall-stones. Gall-stones are present in practically ten per cent of all bodies examined post mortem.

Bauer's statistics indicate that one per cent of all mankind is suffering from gall-stones.

These figures are quite startling and, if true, they show what a great number of patients' abnormalities are not diagnosed, and that many patients are ignorant of their affliction. If one wishes to make a practical conclusion thereof, one may consider that, out of 110,000,000 population of the United States, there would be 11,000,000 gall-stone carriers, or 1,100,000 people suffering from gall-stones. The term suffering in this instance needs some elucidation. No doubt by this term is meant the onset of biliary colic. The incidental frequent findings of gall-stones at the autopsy has led many to believe that the patient did not suffer from gall-stones, because the history sheets did not mention any previous gall-bladder trouble or colic.

Every gall-bladder which carries stones is diseased; therefore it is inconceivable how 90 per cent of the so-called gall-stone carriers can lead a life without symptoms as do stone-free people. Granted, even, that only 1,100,000 out of those above mentioned are suffering, surely the remaining 10,000,000 people do need some consideration and medical attention.

Gall-stone trouble may be classified as having three distinct phases:

- (a) An early or latent stage;
- (b) A stage of colic, and
- (c) A stage of suppuration.

Pathologically the first stage presents gall-stones only, or gall-stones with cholecystitis; clinically it is called a latent or pre-colic stage, and its symptoms are or may be slight and obscure.

The second stage is a rather aggravated first stage pathologically and clinically; it is characterized by the attempt of the stone to pass the cystic duct accompanied by colicky attacks. The recognition of this stage is not difficult.

The pathology of the third stage comprises peritonitis, perforation or empyema—and clinically it is a purely surgical condition.

The peculiar feature of the latent stage is, that it has an unknown beginning and an existence for years without characteristic manifestations. It is impossible to say when gall-stones first become a source of trouble. Probably the cholecystitis is the etiological factor in the origin of gall-bladder sen-

sation and sensitiveness. Whether cholecystitis or something else, the effect upon the patient seems to be the same.

As gall-stones increase in number and in size, they cause a mechanical irritation of the gall-bladder, bringing about a series of local symptoms as well as reflex symptoms in remote organs.

The very earliest and most frequent sign of gall-bladder trouble is indigestion, provided that genuine gastric or other abdominal trouble is eliminated. Patients manifest a capricious appetite at times; at other times there are periods of anorexia, belching, pyrosis and a sense of heavy feeling in the epigastrium, particularly at night, or after heavy meals.

There is an instinctive aversion toward certain foods, such as meats, coffee, and liquors. In many patients the anorexia is profound in the morning and accompanied by a bad taste in their mouth.

In chronic cases the tongue is coated, whereas in the early cases the tongue may remain clean.

The expression "biliousness" as pertaining to the indigestion described above, holds a hidden truth. Biliousness is often accompanied by slight icterus visible in the sclera. Frequent spasms of the cystic duct probably promote absorption of some stagnant bile through the walls of the gall-bladder. Compression of the finger-nails will often elicit a yellowish tinge.

In spite of the gastric symptoms, however, most patients look healthy and gain in weight. Such a state of affairs may last for months or years. This group of patients comprise the bulk of so-called chronic dyspeptics, who lose confidence in the medical profession, because physicians are unable to cure their dyspepsia, indigestion, or constipation, and failing to be satisfactorily cured they turn to various outlets for relief. They try various waters, chiropractors, osteopaths, food specialists, and vegetarians.

All efforts, however, are in vain so long as the true cause is not recognized.

Patients often obtain temporary relief with or without treatment to be followed by depression upon recurrence of their symptoms. The slight symptoms may make it difficult to impress the patient with the gravity of his disease, and this psychological factor must be reckoned with by the physician in the management of those patients.

Constipation is next in order and importance to indigestion in the symptomatology. Although chronic irritation of any of the abdominal or pelvic organs of long standing may produce constipation, this symptom is very constant in conjunction with indigestion in gall-stone conditions.

The attitude of the gall-stone patients during the night is interesting. They are restless, turn from side to side, are wakeful and usually complain of insomnia; this can be explained from a postural standpoint. In an erect position the gall-bladder has its fundus pointing downward; in the lying position the fundus of the gall-bladder is directed upward, the cystic duct pointing downward. No doubt in this position a stone or stones congregate owing to the gravity towards the cystic duct, which becomes irritated causing spasm of the muscularis, thus rendering a mild form of

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colic, which commences like real colic. This is the so-called colic without great pain, but with enough irritation to cause discomfort and insomnia.

The effect of the change of position of the gall-bladder is illustrated by the following:

J. K., 77 years old, complained for the past twelve weeks of anorexia, capricious appetite, constipation, heavy feeling in the epigastrium and restlessness during the night. He voluntarily contributed the information, that when he lies on his back he cannot sleep, but if he lies on his abdomen he soon falls asleep.

Another illustrative case is that of a Mrs. F. F., 30, Italian, married, two children. In 1920 she was taken ill with indefinite symptoms; intermittent anorexia, constipation, palpitation of the heart, insomnia, debility, despondency. All tests and therapeutic efforts proved to be futile, when suddenly a turn for the better came without any apparent reason or without any definite therapeutic action. One fact in the narration of her "cure" is of interest, namely that whenever she slept on her back she felt sick, but when she lay on her abdomen, she began to sleep a great deal better and became much stronger.

Analysis of the stomach contents frequently does not reveal anything definite. Examinations of the duodenum, appendix, and colon usually give negative result, and traces of bile are found frequently in the urine.

Palpation of the abdomen shows a distinct rigidity and tenderness over the gall-bladder region. There is quite a variation in the degree of intensity of the "tenderness," ranging from simple soreness to actual pain, with a typical outcry. Naunyn's method of testing the hyper-sensitiveness of the gall-bladder is to put the right hand flat over the right side of the abdomen, pointing the fingers toward the gall-bladder and giving the hand a push upward during the height of inspiration. A certain jerk or outcry on the part of the patient will be noticed. John Murphy offered a helpful modification of Naunyn's method, wherein the patient is in the standing position, his trunk fixed upon his hip and thoroughly relaxed. The examiner standing behind inserts the palmar tips of his fingers (right hand) deeply in the right hypochondriac region, at the same time the patient is told to deeply inspire. If there is any gall-bladder disease, there will be a distinct reflex action noticed either by inhibition of inspiration or by pain.

A healthy gall-bladder will not cause pain or rigidity. Boas finds an area of increased tenderness on pressure on the right side posteriorly on a level with the twelfth dorsal vertebra, two to three finger-breadths from the spine (Moynihan). I have not encountered this symptom frequently enough to consider it significant or of any special value.

Testing the sensibility of the skin on the right and left side of the epigastrium with a pin, one will often find the right side more sensitive (Heads).

I have found a new and interesting therapeutic test which also has diagnostic value in distinguishing gall-stone colic from other similar pain. If opiates are given by rectum, in gall-stone colic it not only gives quick relief, but the relief seems to be of considerable duration, whereas in other painful conditions of the abdomen, its effect is slower and not lasting. Opium suppositories

in suspected gall-bladder irritation with nightly aggravation in patients in the first stage have given brilliant results. Patients may be relieved for days or weeks from a single treatment. The appetite improves and the patient has a period of recuperation.

This phenomenon explains the curious beneficial results sometimes obtained in the treatment of constipation by opium suppositories. The explanation is that in some instances, constipation is brought on by "spasms" of the large colon and that opium and belladonna may overcome such a "spasmodic" condition of the intestines. The fact is, the authors of this theory hit the truth without knowing the real reason.

Magnesium sulphate is also of great therapeutic and diagnostic value. From two to four teaspoonfuls of magnesium sulphate dissolved in a glass of hot water taken at the onset of a colicky attack may abort or stop the colic quite readily. This remarkable phenomenon distinctly corroborates Meltzer's conclusions regarding magnesium sulphate. He proved that the introduction of a twenty-five per cent solution of magnesium sulphate through a duodenal tube causes a complete relaxation, both of the local intestinal wall, and of Oddi's sphincter of the bile duct as well. The physiological action may explain the alleged therapeutic value of certain "mineral" waters. The observation of Meltzer induced Lyon of Philadelphia to aspirate the contents of the duodenum by Einhorn's duodenal tube, and he thus made the duodenal tube a valuable adjunct in the diagnosis of gall-bladder disease. The presence of cholecystitis and occasional aspiration of bile crystals or sand, speaks for gall-stones. The practical value of Lyon's test is limited. It has not yet been generally adopted, but the biliary drainage is greatly advocated, and is of value only in the hands of physicians skilled in its use.

There is a variety of reflex symptoms in gall-stone disease:

Bilious headache: Perhaps fifty per cent of the patients have frequent headaches.

Cardiac palpitation and precordial pain is frequent, but misleading, because it may be mistaken for angina pectoris. After heavy meals, or after certain foods, a very annoying palpitation of the heart may set in and similar manifestations occur quite frequently at night.

Chronic diseases of the bile ducts no doubt explain some cases of so-called "idiopathic" myocarditis. A number of physicians have noted that reflex disturbances such as dyspnoic attacks due to catarrh of the bile passages, may produce hypertrophy with enlargement of the right heart. Babcock claims that chronic diseases of the gall-bladder do cause chronic myocarditis. I have observed myocarditis of various degrees in patients suffering from gall-bladder trouble. In the second or colicky stage and in the third stage patients with gall-bladder disease may show distinct signs of chronic myocarditis. This condition is brought on in the latent stage either reflexly, as mentioned before, or by chronic irritation of the bile, or by toxemia from the infected areas in the bile passages.

Among various reflex pains, I wish to mention the pain in the interscapular space, mostly on the right side, or pain in the right shoulder region.

Dizziness, faintness, and weakness are frequent complaints during this stage. The chronicity of the trouble is no doubt responsible for many cases of "nervousness," neurasthenia, and even hysteria. Inertia, lack of ambition, and "bilious" temperament are occasionally met with in these patients.

Another interesting feature of gall-stone disease, at least in Southern California, is its seasonal feature. The greatest number of cases occur during the summer months, due probably to frequent attacks of gastro-intestinal infection. Such an infection spreads upward toward the biliary ducts, causing cholangitis and irritation of the gall-bladder with accentuation of its latent or dormant condition. According to Moynihan, "Ehret and Stolz fed dogs, in whose gall-bladders sterilized glass balls had laid for three months without causing symptoms, upon decomposing meats. An acute enteritis was set up and was followed by a purulent cholecystitis." This may account for the frequent bilious attacks of whites in the tropics, no doubt affecting only gall-stone carriers.

The diagnosis of gall-stones is not complete without a proper x-ray examination. F. W. Howard Taylor of Los Angeles says:

A normal gall-bladder has not sufficient density to be visualized on the radiograph. This being true, any patient having a gall-bladder which can be detected on the x-ray film has a pathological gall-bladder. This may be inflammation, thickening of the wall, stones, or a combination of both.

The diagnosis from the radiographic standpoint is divided into two major headings:

1st: The direct evidence; and 2nd, the indirect evidence.

1. Direct evidence.
 - a. Visualization on the radiograph of gall-stone or stones.
 - b. Visualization of the gall-bladder.
2. Indirect evidence.
 - a. Oval pressure defect on the duodenum or pylorus.
 - b. Pulled second portion of the duodenum.
 - c. Adhesions in the gall-bladder region.

These are most commonly found involving the duodenum and are shown in the "puckered up" or fringy appearance of portions of the duodenal wall. This shows an irregular thread-like or ribbon-like appearance of the barium-filled duodenum extending from this organ upward toward the gall-bladder.

The absolute ruling out of gastric or duodenal ulcer and appendicitis strengthens the possibility of gall-bladder disease in a patient with symptoms referable to the gastro-intestinal tract.

Negative finding on the radiograph is no absolute proof of the presence or absence of gall-bladder trouble, but it is apt to cause confusion in the mind of a patient and arouse his doubt and suspicion as to the correctness of the diagnosis. Patients are liable to lay too much emphasis upon the showing of x-ray findings.

ANNUAL CONFERENCE OF HOSPITALS OF CALIFORNIA, SAN FRANCISCO, OCTOBER 18, 19, and 20—SPLENDID PROGRAM ANNOUNCED.

Arrangements are being completed by the Hospital Betterment Bureau of the League for the Conservation of Public Health for the Annual Conference of the Hospitals of California, which will open in San Francisco, October 18. The Hospital Conference Committee prepared and mailed a tentative program to representative hospitals and to a selected list of persons interested in hospital betterment. Many valuable suggestions were received which will be incorporated in the complete program.

Among the outstanding features of the program this year will be an address by Ray Lyman Wilbur, president American Medical Association, on "The Duties and Responsibilities of the A. M. A. in Hospital Betterment"; "Hospitals as Educational Agencies," H. S. Pritchett; "Hospital Betterment in California," W. E. Musgrave, M. D.; "The California Medical Association and Hospital Betterment," T. C. Edwards, M. D., president California Medical Association.

State-wide interest is being manifested in "How May Hospital Care Be Furnished Most Efficiently to Those Who Cannot Afford to Pay the Full Cost for Such Service." Thursday afternoon, October 18, will entirely be devoted to a discussion of this subject, as many hospital administrators and directors want to present their views on this much discussed problem.

The subject for the morning meeting of Friday, October 19, is, "What Is the Best Method of Articulating the Hospital With Its Various Legitimate Contacts? Pathology and Clinical Laboratories, Radiology, Public Health Department, etc.," and for Friday afternoon, "Hospital Administration, Including Methods of Accounting, Reports, Methods of Admission, Classification and Discharge of Patients."

On Friday evening a big public meeting will be held under the combined auspices of the Hospital Betterment Bureau of the League for the Conservation of Public Health, the Narcotic Department of the City Federation of Women's Clubs and the Medical Society of the State of California.

There is so much publicity upon narcotic addiction which is based upon fiction instead of fact that it is incumbent on those familiar with the facts to present a constructive program.

"What Should California Do to Improve the Narcotic Situation in Our State?" by legislation, by administration, by medical prevention and treatment, by education, will be discussed by Curtis D. Wilbur, chief justice of the Supreme Court of California; Louise B. Deal, M. D., chairman of the White Cross Anti-Narcotic Society; James Rolph, Jr., mayor of San Francisco; Mrs. D. E. F. Easton, president City Federation of Women's Clubs.

Group luncheons during the first two days of the convention for "round table" discussions are being arranged by groups interested in the following special subjects:

Hospital Staffs and Staff Organizations; Nursing; Public Health Nursing and Medical Social Service; Laboratory Technicians; Physiotherapists; Roentgenologists; Dietitians; Library and Clinical Record Technicians; Organization and Management; Management of Municipal, County and State Hospitals.

And though you may be able to cheat history itself into the belief that you have been a great physician or surgeon, yet if you have not labored honestly and have permitted your skill to depend upon the whim of the lucre distributor, you will have while you live the humiliating feeling within you that you are far from being a great man in a great profession. "The applause of the listening senate to command" is meaningless and unsatisfying to your better thoughts.—(H. P. Ashe, Pennsylvania Journal of Medicine.)